

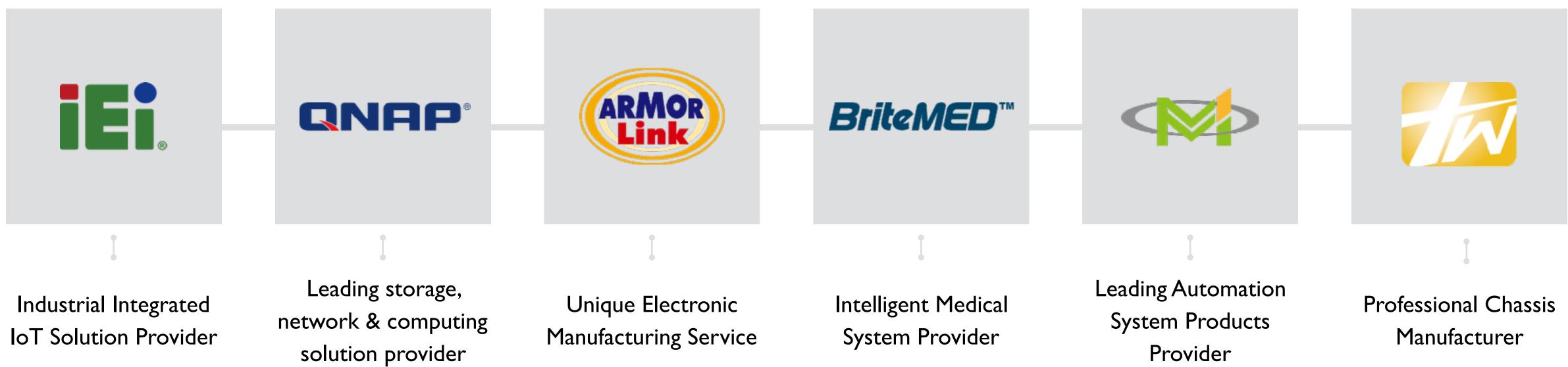
## QNAP SYSTEMS, INC. COMPANY PROFILE

Leading storage, network & computing solution provider. File storage, backup, sharing, multimedia, surveillance, virtualization, IoT, A.I., machine learning and more.

## Overview of IEI Group

Innovation & Integration lead to Private Cloud Total Solution





## About QNAP

- Innovative software development and hybrid-cloudbased AI platform
- Complete portfolio from development and hardware design to accelerate enterprise deployment of AI solutions
- Global market presences
- 1000+ total employees. Software engineers make up
  60% of the company workforce





## Worldwide Presence





## See the Bigger Picture with Us

In collaboration with IEI, we envision our upcoming QNAP NAS models to serve as an intelligent gateway that empowers both home life and work environments.



## Ride the AI wave with QNAP QuAl

- QNAP's AI Developer Platform •
- Intended for data scientists and developers to quickly build, train, and optimize AI models running on QNAP NAS
- GPU-accelerated computing empowers AI •
- Easily host AI applications on QNAP NAS •

## **RNAP**<sup>®</sup>





## QNAP NAS as

an intelligent hybrid network application server

- Implementation of AI & machine-learning mechanisms
- Network computing ability & data security
- Providing "IoT-oriented" services and applications •

## **QNAP**<sup>®</sup>







## QNAP NAS as a GPU-empowered computing solution

- Graphics card support for video processing and GPU pass-through • to virtual machines.
- Accelerate AI applications with GPU computing power •









## Fast NAS Solutions with

IOGbE connectivity and SSD caching

- Aimed at extending NAS functionality, QNAP presents a variety of **IOGbE** and SSD cache applications
- Implementation of IOGbE connectivity and SSD caching helps to optimize the storage efficiency and data transmission capabilities of QNAP NAS









## Achievements & Recognition

Over 100 Corporate & Product Awards Worldwide

### Red Dot Design Award 2018 TVS-951X 9-bay 10GbE multimedia NAS





#### Best Choice Award 2018 TS-328 3-bay RAID 5 NAS





## Videomaker's Best Products 2017 Best Storage Award

TVS-I282T3Thunderbolt™ 3 NAS





#### Red Dot Award 2017

#### TVS-873 IOGbE-enabled business NAS





#### European Hardware Awards 2017 Best NAS Device

TS-451+ quad-core NAS





## QNAP Leads the Way

Comprehensive NAS products that reflect technology and market trends





QTS 4.3.5 future-proofs the network and storage functionalities of QNAP NAS with even more software innovations. The latest generation of QTS is tailored for users with greater needs for advanced network infrastructure deployment and storage management.

## QTS 4.3.5

Empowering the network and storage functionalities of QNAP NAS









QNAP offers a comprehensive portfolio of AMD-based NAS to meet a wide range of user requirements. AMD-based NAS solutions delivers uncompromising performance to facilitate performance-demanding applications including high-speed data transfer, backup/recovery, virtualization, media playback and graphics display.



## QNAP NAS Series Featuring AMD<sup>®</sup> CPUs and APUs







# AMD CPU-based NAS



#### Enterprise



#### **SMB**











Featuring epic storage potential, the 16-bay NAS solutions incorporate both high performance and high capacity for continuously optimized storage efficiency to tackle mission-intensive applications necessary for modern data centers such as virtualization and massive data backup and recovery.

## High-capacity 16-bay NAS Solutions

Store more and smarter







# 16-bay NAS Models



#### TS-1677X





#### **TS-1635AX**











Designed to accommodate five 3.5-inch HDD bays and four 2.5-inch SSDs bays, QNAP's 9-bay models fully enable SSD caching and Qtier to provide both highcapacity storage potential and optimal system performance.

## 9-bay Hybrid NAS Solutions Slim size, big capacity







## 9-bay NAS Models



#### TS-963X



#### **TS-951X**











## **IOGbE** Solutions Standardizing 10GbE environments

QNAP offers powerful-yet-affordable high-speed 10GbE-ready NAS and peripherals suited for all organizations - from huge enterprises to small offices - to improve overall network performance and bandwidth-demanding applications.











#### Built-in I0GbE port (s)



#### **Optional I0GbE expandability**









## **IOGbE Switches & Network** Expansion Cards Upgrading network environment at a cost-effective price

QNAP provides economical solutions for businesses, organizations, and advanced home users to adopt 10GbE network infrastructure. With 10GbE connectivity, users can boost the performance of bandwidth-demanding tasks and team collaboration.











The QM2 series PCIe cards add support for M.2 SSDs and 10GbE RJ45 connectivity (optional) to a QNAP NAS. Combining SSD and 10GbE connectivity into one solution, the QM2 helps improve overall NAS performance while providing an affordable upgrade path for adopting I0GbE networks.

## QM2: M.2 SSD/10GbE PCIe Expansion Cards

Optimize 10GbE applications with M.2 SSD caching









QNAP Thunderbolt NAS solutions features ultra-high transfer speeds with expandable data storage, boosting productivity with 4K workflows and empowering collaborative video editing for Thunderbolt-equipped Mac & Windows users.

Coupled with I0GbE connectivity, Thunderbolt NAS brings incredible flexibility for network connectivity, helping users tackle today's challenges in fast-paced multiworkstation environments.



## Thunderbolt<sup>™</sup> NAS

Boost creative media collaboration









#### **Thunderbolt 2 NAS**



#### **Thunderbolt 3 NAS**











The QWA-AC2600 turns a Ubuntu/Linux PC or QNAP NAS into a high-performance and secure wireless access point/base station.

## Wireless Adapter: QWA-AC2600 A tailor-made private wireless network that meets your

Leveraging the higher compatibility of 802.11n and faster connection of 802.11ac, the solution empowers versatile applications including wireless LANs in the workplace and Internet of Things (IoT) deployment in the field.

## **CNAP**<sup>®</sup>









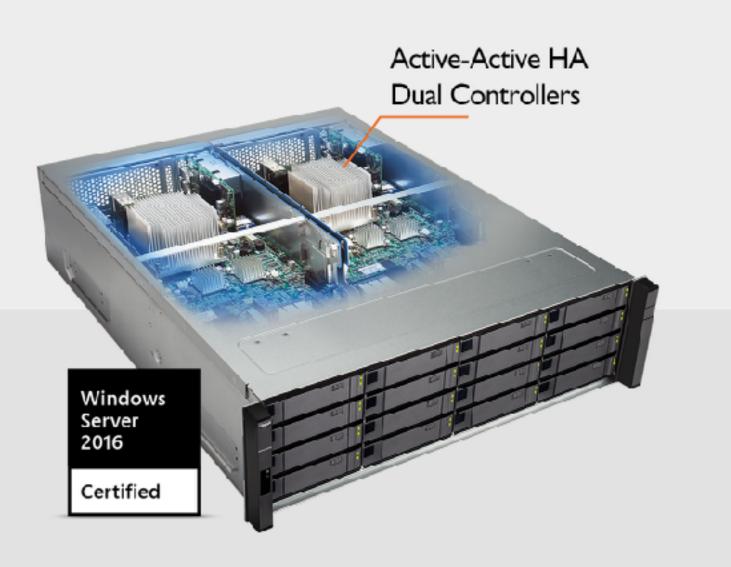
### AfoBot QNAP's first video companion robot

Designed with a focus on home environments, AfoBot is your intelligent companion assistant. AfoBot features voice interaction, face recognition and video calls. It helps foster easy communication, family care, entertainment, and daily life assistance, enhancing quality of life and providing greater communication opportunities at home.











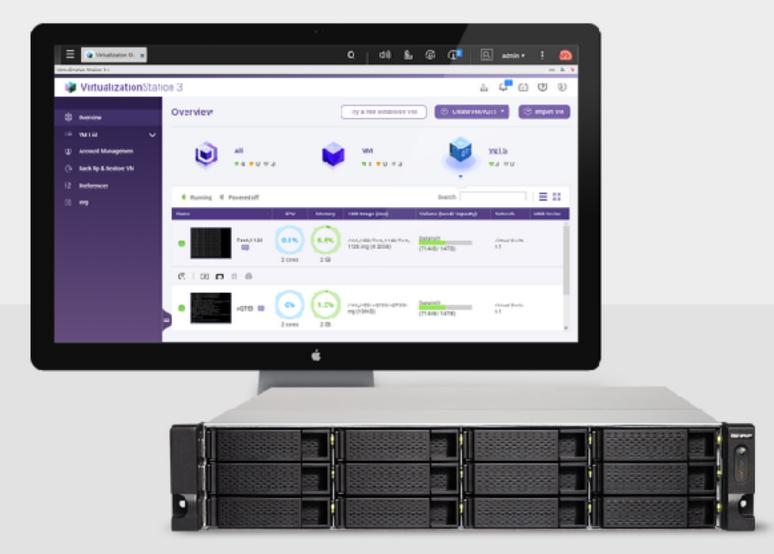
Designed for mission-critical IT tasks, the Enterprise ZFS NAS excels in providing High Availability solutions for file servers, virtualization servers, virtual desktops, online video streaming, snapshots and remote recovery.

### High Availability Dual-controllers for near-zero downtime











## Virtualization

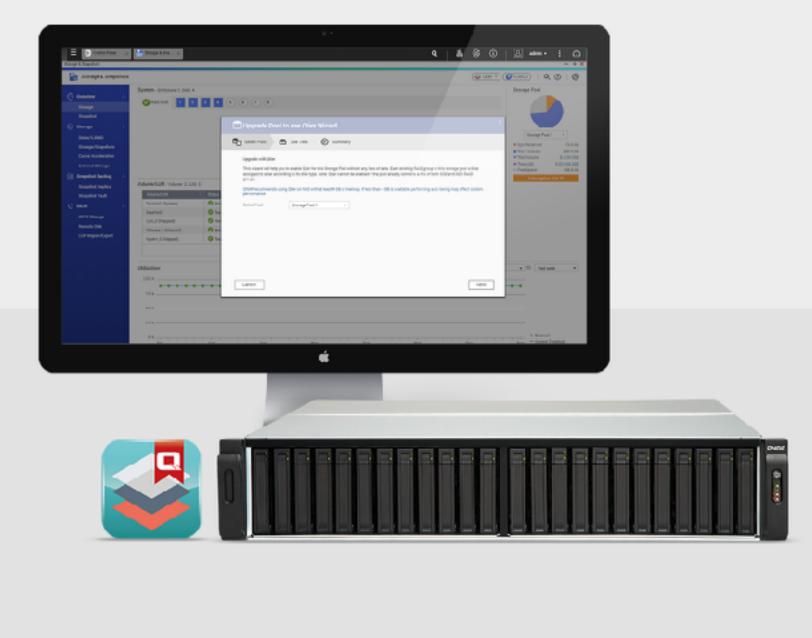
Storage for virtualized environments, VMs and containers

QNAP NAS provides high-performance, reliable and affordable storage solutions for VMware<sup>®</sup> vSphere<sup>TM</sup>, Microsoft<sup>®</sup> Hyper-V<sup>®</sup>, and Citrix<sup>®</sup> XenServer<sup>TM</sup>. It is also a server to host virtual machines (with Virtualization Station) and containerized apps (with Container Station) for greater usage potential.











Qtier Technology empowers QNAP NAS with Auto Tiering that helps continuously optimize storage efficiency across SSD, SAS, and SATA drives for around-the-clock acceleration.

## Qtier<sup>TM</sup> Optimization Enabling 24/7 optimized storage efficiency











DJ2 Live is an exclusive live broadcasting platform based on a private cloud that supports up to 4K video live-stream broadcasts and stores all the videos on the private, secure, high-capacity QNAP NAS.

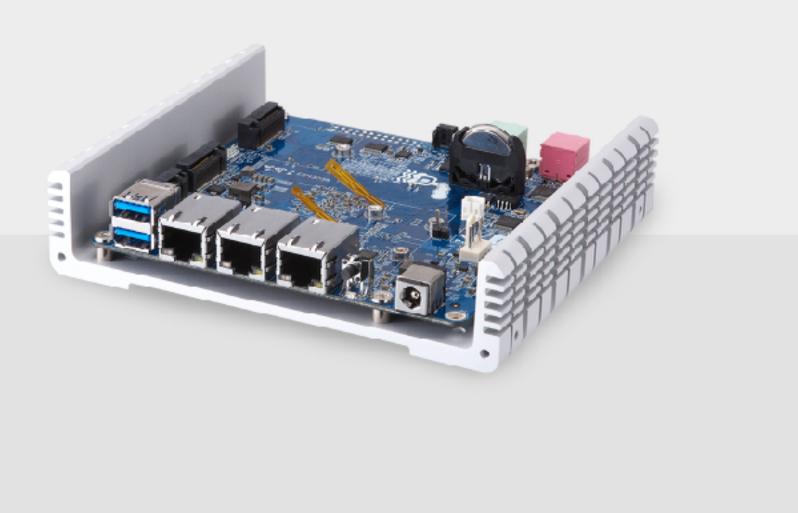
## 4K live-stream broadcasts

Embracing live-streaming trends











QIoT Suite provides easily-adoptable practical modules for developers, accelerating IoT development and services. QBoat Sunny (QTS IoT Server) helps connect and manage IoT devices and applications to provide a handy solution for the great potential industrial demands of IoT.

#### Internet of Things Private IoT cloud platform & IoT server







### QNAP Innovates

## Full-throttle innovations accommodating comprehensive

business & home entertainment applications.

#### Backup & Restoration

Efficient backup and disaster recovery



Hybrid Backup Sync consolidates backup, restoration and synchronization functions into a single QTS app for data transfer to local, remote and cloud storage spaces.







#### Synchronization

File sharing and syncing across devices



Qsync enables efficient file synchronization between a QNAP NAS and linked devices such as computers, laptops and mobile devices.







#### Web Automation Service

User-defined NAS rules and services



IFTTT Agent allows connecting your QNAP NAS with apps like Gmail, Facebook, and Twitter to automate daily tasks based on user-defined rules to boost productivity.







#### Centralized Device Management

Single point solution for networked computing devices



QRM+ is QNAP's Centralized Remote Management solution that provides a single-point solution for IT administrators to discover, map, monitor and manage IPMI-compatible Windows and Linux devices such as Servers/PCs/Thin Clients.







#### **Multi-zone Home** Entertainment

NAS as a multimedia control center across devices



Cinema28 is a centralized management platform for multimedia streaming devices, allowing users to stream media files from a single platform, greatly enriching multimedia experiences for home and SOHO users.







#### File Management Solutions

Simplified file organization and data search tools



Qfiling automates your file organization - all you need to do is categorize your files, set a schedule, and leave the rest to Qfiling.







#### File Management Solutions

Simplified file organization and data search tools



Qsirch is an exclusive whole-NAS search engine that supports file indexing, content preview, personalized search filters, enhanced email search and management of stored emails.







#### Workplace Productivity

Manage your work and daily life smartly



QNAP provides various management tools to help you smartly manage your work and daily life. QmailAgent and Qcontactz allow you to centrally manage multiple email accounts and contacts. QcalAgent is a centralized schedule management app that can synchronize with multiple calendar services, including Google Calendar, Outlook Calendar, and CalDAV-based calendar services.

#### RNAP®





#### **OpenStack** Deployment Solution

Fast integration of QNAP NAS with OpenStack environment



QNAP's Cinder driver supports OpenStack Ocata, turning QNAP's enterprise-grade NAS into an integral part of OpenStack ecosystems, providing businesses with a flexible, easy-to-use, and low-cost storage solution.









#### A professional NVR solution on QNAP NAS



QVR Pro is a professional surveillance application that runs alongside the NAS OS as an independent operating environment. With various APIs available, developers can create an open event platform that integrates QVR Pro's resources to build a surveillance solution to meet their needs.

#### RNAP®





#### **QVR Center & QVR Guard**

Surveillance applications for QVR Pro



QVR Center offers a central management platform for multiple QVR Pro deployed within various environments. Users can centrally monitor live feeds, play back surveillance footage, and receive event notifications from multiple QVR Pros to respond quicker to events.

QVR Guard features failover functionality that protects QVR Pro from system failure and ensures uninterruptible surveillance recordings.

#### RNAP®





# Alliance

#### BlueGlacie



#### **QNAP** × **Panasonic**

#### Enterprise storage & archiving solutions

QNAP partners with Panasonic to present a Blu-ray Disc archiving solution for large-volume data by integrating QNAP NAS with Panasonic's "freeze-ray" scalable Optical Data Archive System.









#### **QNAP** × Seagate Boost NAS Health with IronWolf Health Management

Seagate's IronWolf Health Management (IHM) is now available on QNAP NAS. IHM provides a suite of diagnostic tools to improve NAS system reliability with powerful prevention, intervention and recovery capabilities.







#### VERITAS' X QNAP

#### VTE (Veritas Technology Ecosystem Partner)



#### **QNAP** × Veritas

All-in-one backup solution across physical, virtual and cloud environments

QNAP NAS and Veritas Backup Exec introduce a comprehensive storage solution tailored for the data and system backup needs of small and medium businesses. QNAP Enterprise NAS now supports the Veritas Backup Exec solution to provide higher-performance and highlyscalable backup service across physical, virtual and cloud environments

#### RNAP®







#### **QNAP** × Canonical Dual operating systems

Leveraging QNAP's QTS OS and Ubuntu, Linux Station provides an advanced platform for the development of Internet of Things (IoT) services and applications.









#### **QNAP** × Nakivo

#### All-in-one backup solution for VM backup

QNAP has teamed up with NAKIVO® to provide NAKIVO Backup & Replication v7, a high-performance yet affordable VM backup solution that is fully integrated with QNAP NAS.







# More Feature-rich

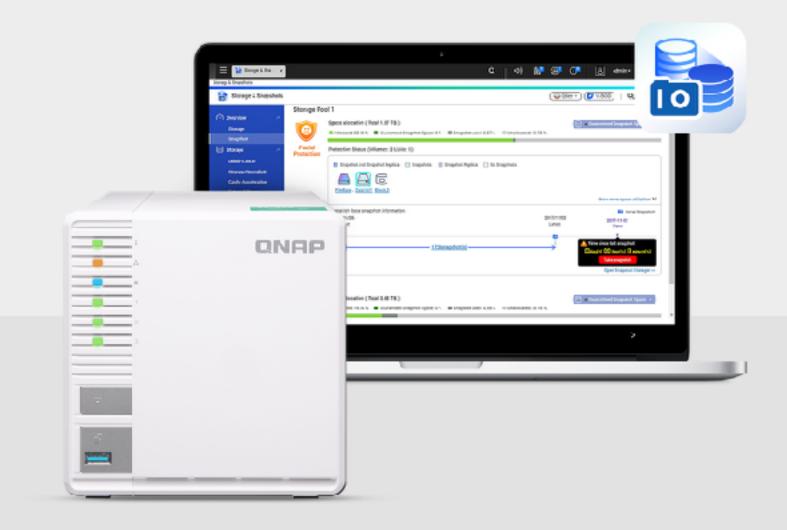
Applications

### Data Protection with Snapshots

Ext4-based snapshot provides uncompromised storage performance

- Now also supported by ARM-based NAS
- Adequate disaster recovery option against ransomware attacks
- Fast and precise data backup with block-based LUN snapshots to reduce disaster recovery time
- Snapshot Replica & Snapshot Reserve Space





### Storage

QNAP NAS provides a secure, high-capacity centralized file center to store up to petabytes of data.

- Comprehensive RAID support
- Cross-platform file sharing (SMB/CIFS, AFP, WebDAV, and NFS)
- VJBOD (Virtual JBOD) for using a QNAP NAS to expand the capacity of other QNAP NAS
- Scalable design with QNAP expansion enclosures



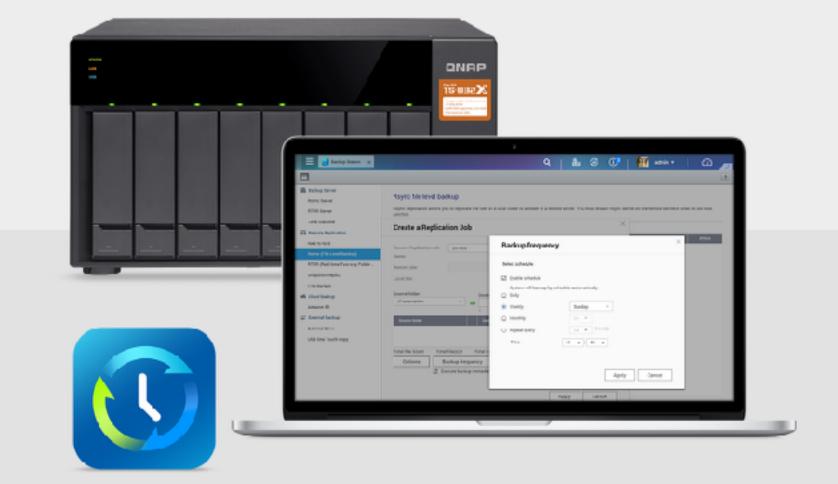


### Backup

QNAP NAS assists in mitigating data loss with complete data backup and disaster recovery options.

- Desktop/laptop backup
- Business critical backup and recovery
- VM backup
- Remote backup (RTRR, rsync) Volume & LUN Snapshots
- Hybrid Backup Sync consolidates backup, restoration and synchronization between local, remote and cloud storage.





### Productivity

QNAP NAS provides various apps and features to multiply productivity to quickly finish more tasks

- SSD Cache
- QvPC Technology
- Q'center
- CloudLink
- exFAT support





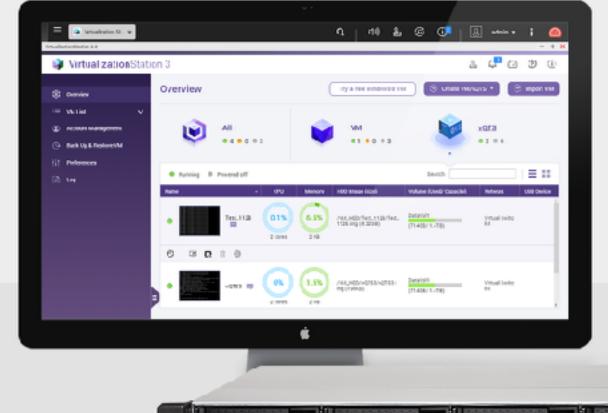
#### Virtualization

QNAP NAS is virtualization-ready, and supports hosting VMs and containers as cost-efficient storage with optimized performance

- Virtualization Readiness Storage for virtualization
- Virtualization Station Hosts multiple VMs on the NAS
- Container Station Integrates LXC and Docker lightweight containerized • virtualization







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#### Multimedia

QNAP NAS is an all-in-one multimedia center to collect, back up and share multimedia files for a complete entertainment experience

- Photo Station, Music Station
- Media Streaming via DLNA, Apple TV, Chromecast, Plex Server or Roku platform •
- Multi-zone multimedia streaming
- Media transcoding
- HDMI connectivity for 1080p/4K video playback
- OceanKTV a NAS-based karaoke system







#### Surveillance

QNAP NAS provides a comprehensive surveillance solution for safeguarding office and home environments with 24/7 security

- QVR Pro, a professional network surveillance video management system •
- User-friendly management interface
- Real-time monitoring, video & audio recording and playback •
- Over 5,000 compatible IP camera models
- Expandable IP camera channel licenses
- Milestone IP surveillance platform







### QloT

QIOT Suite Lite: QNAP's private IoT cloud platform for microservices-based architectural patterns as applied to IoT systems

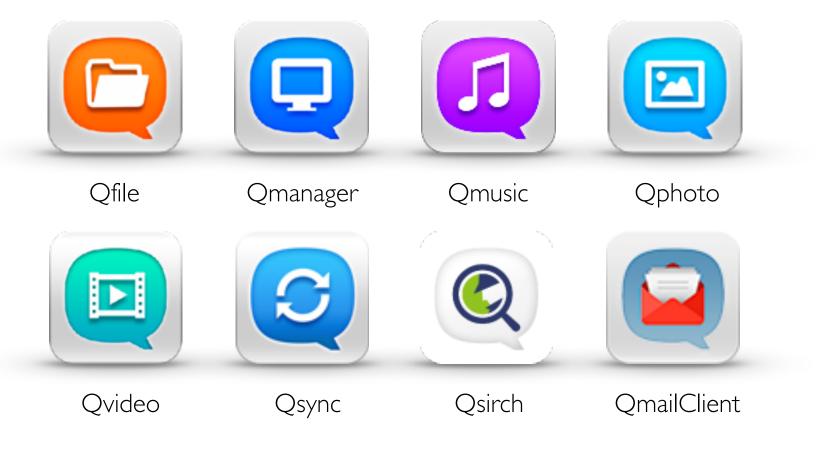
- QNAP NAS with large storage capacity •
- Well-rounded security
- Protocols for IoT (MQTT, MQTTS, HTTP, HTTPS, CoAP)
- Shorter design lifecycle •
- Scalability for micro services •
- Integrated with public clouds



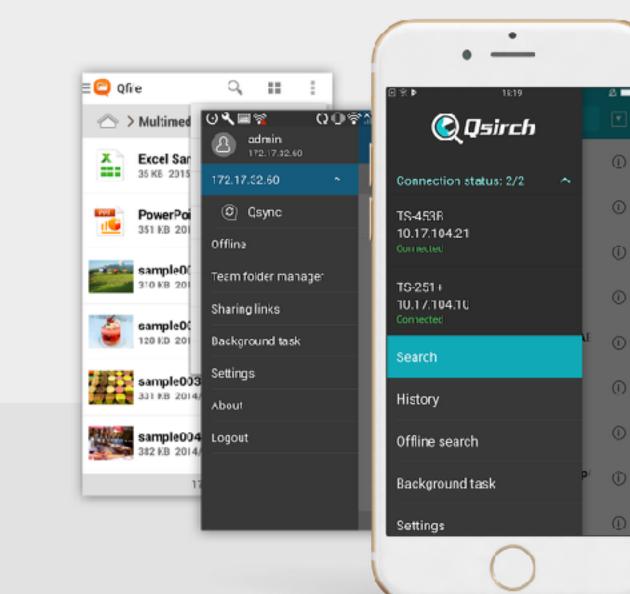


### QNAP Mobile Apps

QNAP provides numerous apps for iOS, Android, and Windows-based mobile devices to increase the flexibility, manageability and accessibility of QNAP NAS services







### **QNAP** Utilities

QNAP provides a range of specialized utilities to bring out the best of QNAP NAS

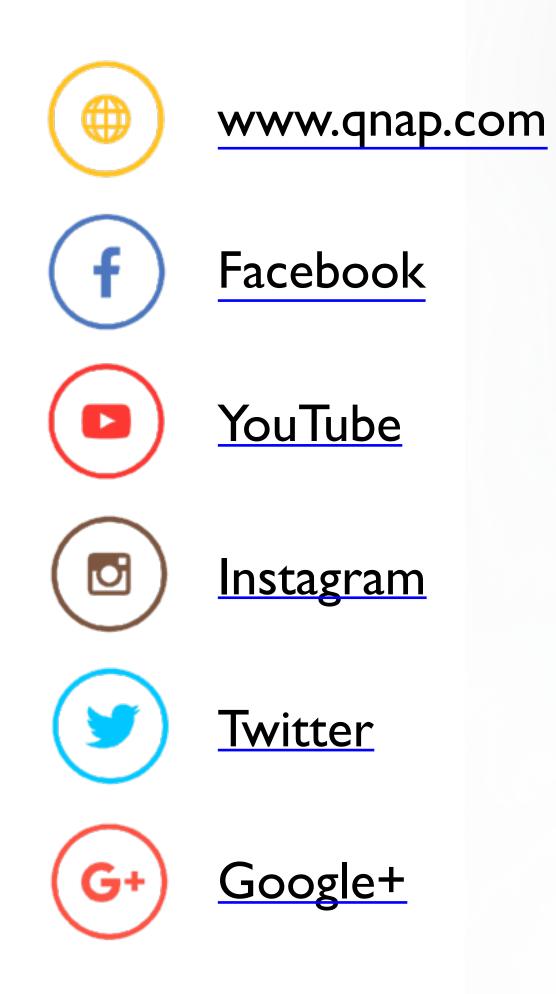
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Qfinder Pro	myQNAPcloud Connect	Qsync	NetBak Replicator	Snapshot Agent
vSphere (Web) Client plug-in	Q'center Virtual Appliance	QVHelper	Video HD	Qmedia



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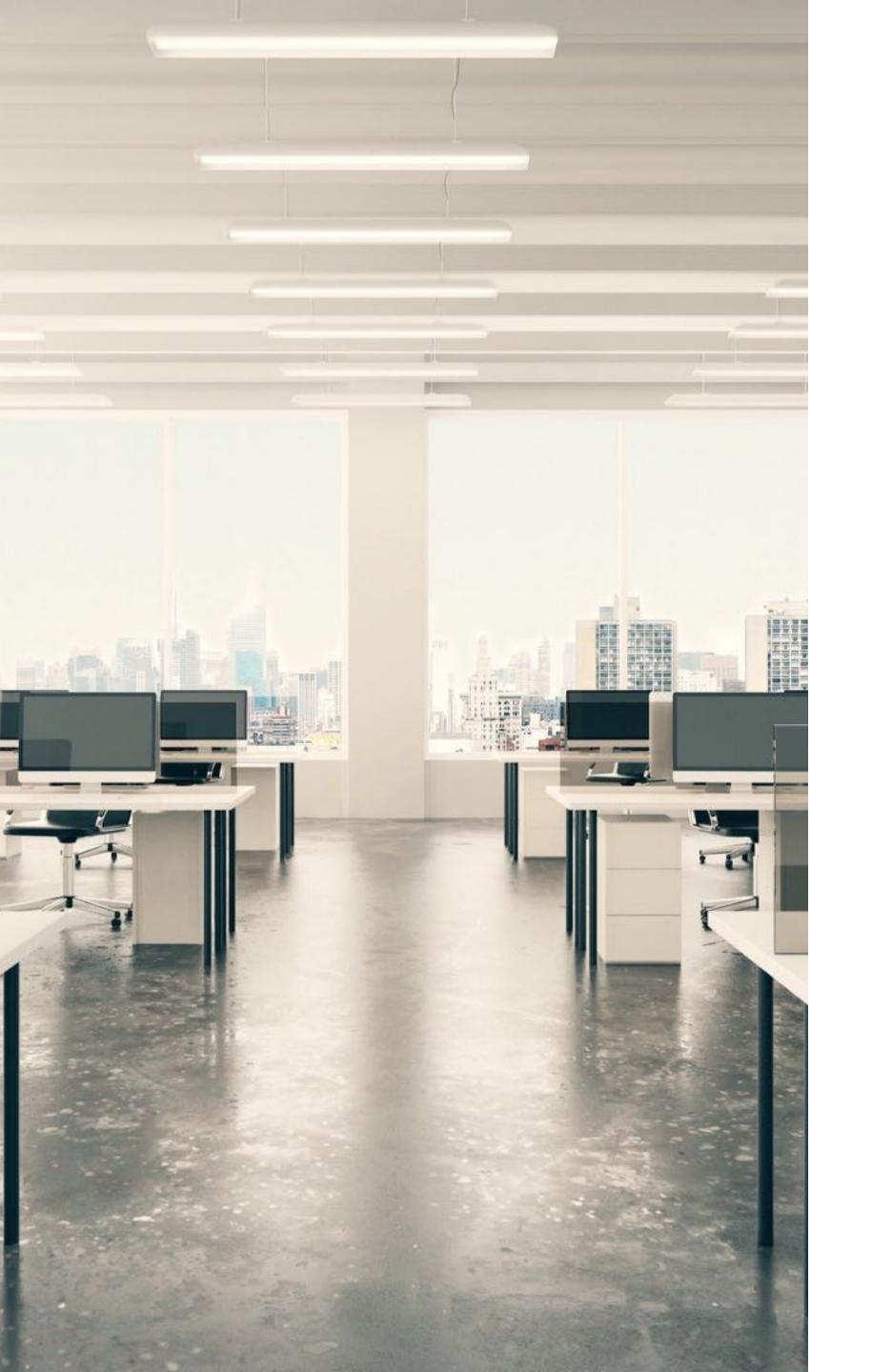








# Let's Connect



# Thank you

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